U.S. House of Representatives
Homeland Security Committee
Subcommittee on Emergency Preparedness, Science and Technology

Full Testimony of the United Telecom Council
Hearing on "The State of Interoperable Communications: Perspectives from the Field"
Wednesday, February 15, 2006

Mr. Chairman and honorable members of the Subcommittee:

I am William R. Moroney, President and Chief Executive Officer of the United Telecom Council (UTC). I thank you for the opportunity to appear before you today to discuss issues of vital concern to all emergency responders.

For nearly 60 years, UTC has been the voice of electrical, gas and water utilities in matters relating to their voice and data telecommunications. UTC's several hundred critical infrastructure members range in size from multi-state organizations such as National Grid and Exelon, to municipally owned utilities and co-ops operating in cities, towns and rural areas throughout the country. All of these companies own, maintain and operate private, mission-critical communications systems. Most importantly for purposes of this hearing, these include two-way land mobile radio systems on which we all rely for both routine and emergency communications.

Critical Infrastructure Communications Affect Homeland Security

All critical infrastructure industries are becoming increasingly dependent on information management and private internal communications systems to control and maintain their operations. A 2002 study by the National Telecommunications and Information Administration (NTIA), entitled, "Current and Future Use of Spectrum by the Energy, Water and Railroad Industries," makes very clear the extent of this dependency to meet essential operational, management and control functions.[1] Communications systems, especially radio systems, are considered safety equipment just as they are by public safety personnel. Safe operations and rapid restoration in emergencies are not possible without these systems.

All parties concerned with homeland security agree that one of the most important considerations is the availability of reliable, interoperable communications for "emergency responders," a term we use to encompass a broader community than traditional first responders. It's meant to include all those who are on the ground responding within hours to disasters of all kinds. Another fact brought to attention by recent events, especially the disastrous hurricanes of the past two years, is that the most important step back to "normalcy" is the restoration of electric power and a supply of safe drinking water to homes and businesses.

[1] A copy of the Executive Summary of the NTIA Study is included as Attachment A to this document. The full study can be found at http://www.ntia.doc.gov/osmhome/reports/sp0149/sp0149.pdf.

In this regard, there are three important issues which need to be addressed: 1) The critical players that require such communications include not only the first responders from the public safety community, but also the critical infrastructure enterprises such as power and water utilities that provide services considered necessary for normal life; 2) We must ensure effective and interoperable communications both among critical infrastructure entities responding to emergencies, and between them and public safety responders; and 3) Government oversight of emergency preparedness and interoperability must mandate inclusion of the entire emergency response community in federal policy and planning to overcome local biases and coordinate what are now only piecemeal efforts.

Emergency Responder Communications

It is understood that the local and state police and fire personnel are among the first responders to an emergency, as well as emergency medical personnel. But critical infrastructure employees – the utility workers who immediately head to disaster-stricken areas and get to work – are often overlooked as vital to any emergency response. Along with protecting life, the first order of business following a manmade or natural disaster is the restoration of essential public services, including water (to fight fires and ensure clean and safe supplies), gas and electricity (to restore heat, light, computer-based networks of all kinds, commercial communications, and more). These are the first services that must be brought back on line, so these workers are among the first personnel on the scene.

The job of an electric lineman is nearly always listed among the ten most dangerous in the nation – and reliable communications is key to safety, especially in the chaos that follows a disaster. One element of reliability for critical infrastructure industries, beyond that for traditional public safety: our radios must work, wherever our crews go, when the power is out. During any kind of manmade or natural disaster, you will see police, fire, utility and other emergency personnel on the scene at the same time. **Any discussion of emergency interoperability must include critical infrastructure industries such as electric, gas and water utilities if the United States is to have an effective system.**

Some examples: as soon as the magnitude of the 9/11 disaster became apparent, more than 1900 Consolidated Edison emergency workers were dispatched to Ground Zero to assist critical service restoration efforts and provide emergency communications capabilities to others on the scene. ConEd's two-way land mobile radio system was among the only communications available and was widely used during the first few hours following the collapse of the Twin Towers. More recently, the communications systems – land mobile, microwave and fiber -- of Gulf Coast utility companies, large and small, *continued to function* or were back up within hours during and after hurricanes Katrina, Rita and Wilma, in contrast to nearly all other communications networks. This performance is documented in UTC's November 2005 study, Hurricanes of 2005: Performance of Gulf Coast Critical Infrastructure Communications Networks. The findings of the study, as outlined in its Executive Summary, are included with this

statement as Attachment B.[2] Among them is the highlighted need for better interoperability to get the work done safely and as fast as possible.

Moreover, utility emergency response is usually a nationwide, and even international, response. Tens of thousands of field crews from around the U.S. and Canada responded to hurricane-stricken areas in both 2004 and 2005; they do the same after ice storms in the North or any other disaster. This week, crews from other utilities could be seen around the Washington area helping to restore power after this weekend's snowstorm. While local utilities generally get excellent performance from their communications systems, one of the major problems for coordinating such large-scale efforts is the fact that utility communications themselves are not interoperable. Our entities operate on several different land mobile frequency bands, using different technologies. **Therefore, critical infrastructure's need for interoperability in emergency response is two-fold: we need communications among crews from different utilities, and we need much better coordination between utilities and local public safety agencies to facilitate restoration.**

Local Efforts Toward Interoperability

Congress recognized the importance of our systems in 1997, when you included utilities, pipelines and other critical infrastructure among "public safety radio services:" those private systems that provide support to such vital systems that entities operating them should have access to spectrum without obtaining it via auction. Since then, critical infrastructure has not sought access to existing public safety spectrum. However, the FCC has not made an allocation to non-public safety private wireless since 1985, and critical infrastructure industries, unlike Public Safety, have no dedicated spectrum for their use. Therefore, UTC and its members have looked for opportunities to bolster interoperability among all emergency responders by other means, while continuing to seek a dedicated spectrum allocation. The most effective means on a local basis has been through shared radio systems shared among multiple agencies including utilities and traditional public safety, and there are dozens of these throughout the country.[3] Many of them have been built by utilities, because we often can get the system funded and into operation faster than public safety agencies. And – we build our systems so they work when the power is out.

Just a few examples of shared systems: Gainesville, Florida, where Gainesville Regional Utilities has built and maintains a non-profit, shared 800 MHz system. Local public safety agencies use this system as low-cost subscribers. There are many municipalities, as throughout the Philadelphia metro area, where local utilities and public safety agencies share a common radio system owned by the local government.

[2] The full text of the study will be provided to the Subcommittee as supplemental material, or may be found at

[3] While most shared systems include a municipal utility, UTC is aware of a pending statewide system in Missouri that is designed to include various public safety agencies and investor-owned utilities. Such a system, if encouraged by state leadership, could become a model of cooperation for other areas.

In Mississippi, Alabama, Georgia and the Florida Gulf Coast, Southern Company has built a commercial 800 MHz system to utility standards, making it attractive to thousands of public safety users, as well. The Southern system was among the utility systems that remained operational post-Katrina, when all other cellular systems were down. A system like Southern's is the *only* form of commercial system appropriate for mission-critical communications, since utilities must have complete coverage of their service territories, as well as guaranteed reliability at all times. No consumer-oriented commercial wireless provider can afford to offer service to this standard, nor do commercial systems continue to function during power outages of any duration.[4] Utility communications must function ultra-reliably, and never more so than when the power is out. Since commercial communications networks cannot meet this standard, they generally are not relied upon for emergency or mission-critical communications.

The shared systems outlined above are only local or company-specific attempts to solve interoperability problems, and the United States needs a nationwide solution so that *all* emergency responders can communicate with each other. We offer our expertise to help reach this vital goal.

Critical Infrastructure Could Build an Interoperable Network

Unlike traditional public safety, the critical infrastructure industries have no designated spectrum for their own use, and we suffer from increasing congestion and interference on the bands we share with millions of other non-public safety private wireless users. We have requested a small, exclusive allocation of six to ten megahertz on a band below 1 GHz, on which we propose to construct a nationwide system. This system would be interoperable among the many critical infrastructure entities that always respond to regional emergencies, and would be made available to traditional public safety, federal agencies and others through additional equipment, or as part of a network of networks (*see* Attachment C, below).

While it is understood that spectrum is a scarce resource, homeland security initiatives should consider an exclusive allocation of spectrum to critical infrastructure for the establishment of a nationwide emergency communications network. This would achieve three objectives: 1) economies of scale would drive down the cost of equipment; 2) efficient spectrum use would dictate the use of this spectrum on a day-to-day basis for critical infrastructure operations support, while entities would be responsible for maintaining the emergency network; and 3) emergency response capability would be served by all response agencies having immediate access to fully operational communications equipment, priority access and a fully interoperable network when the need arose.

[4] The Subcommittee should take notice that programs promoting commercial wireless providers for Wireless Priority Access Service are completely useless to critical infrastructure. Even if not overloaded with traffic during a disaster, whether manmade or natural, cellsites do not have long-term backup power. A system that simply doesn't work during power outages – regardless of our low priority to start -- is useless to critical service restoration personnel and should be considered useless for public safety personnel, as well.

Federal Coordination is Necessary

One of the questions posed for this hearing concerned the appropriate role of the Federal government in interoperability efforts. To begin with, UTC does not believe that this government is prepared to, or should, fund a stand-alone emergency system for just a portion of the emergency response community. Not only would this be ruinously expensive, it would be an extremely inefficient use of scarce spectrum, would duplicate existing systems and would not appreciably help emergency response as it occurs in real life. Instead, Federal coordination is needed to ensure that all segments of the emergency response community are included in planning efforts, whether national, state or regional, and to encourage coordination among national representatives to develop policies and procedures that will help entities work together. For example, non-local utility crews often are stopped by law enforcement from getting into damaged areas to restore power; a simple, standard procedure could eliminate this problem. **The Federal government should designate critical infrastructure industries such as utilities as "emergency responders," and mandate their inclusion in preparedness and response planning.** Congressional leadership also is needed to establish the spectrum allocation outlined above – while UTC has great respect for the Federal Communications Commission and its personnel, the agency's focus on commercial communications services has made it less than well-equipped to understand or act on the needs of non-commercial licensees.

UTC and its hundreds of members stand ready to help in national efforts to make the United States both more prepared for disaster, and more equipped to recover from it quickly. Critical infrastructure entities build the most robust communications infrastructure found in the U.S., as proven by its performance, and our strong habit of emergency planning and operations makes us excellent partners in the drive toward efficient emergency response and recovery. We urge you to include us in interoperability development and implementation.

Mr. Chairman and Members of the Subcommittee, I thank you again for this opportunity to speak with you. I can be reached at 202.833.6801 or bill.moroney@utc.org if I or UTC can answer any questions.

Attachment A

CURRENT AND FUTURE SPECTRUM USE BY THE ENERGY, WATER, AND RAILROAD INDUSTRIES

Response to Title II of the Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, 2001
Public Law 106-553

U.S. DEPARTMENT OF COMMERCE
National Telecommunications and Information Administration

EXECUTIVE SUMMARY

BACKGROUND

Public Law 106-553, The Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Act, requires the National Telecommunications and Information Administration (NTIA) to consult with other federal agencies and departments responsible for regulating the core operations of entities engaged in the provision of energy, water, and railroad services and to report to Congress no later than one year after the Act's enactment on the current and future use of spectrum by these entities to protect and maintain the Nation's critical infrastructure.

NTIA employed the following methodology to facilitate and expedite the information gathering process from the energy, water, and railroad industries; representative trade organizations; and federal agencies with regulatory oversight of these industries:

- A Request for Comments, with a 60-day comment period, was published in the *Federal Register* on April 9, 2001. NTIA received a total of 19 responses from members of the utilities industry and various trade organizations. The membership of these trade organizations represents major segments of the energy, water, and railroad industries. This report contains a compilation of the responses received to the Request for Comments.

- A letter was sent to Executive Branch agencies that exercise oversight of these industries containing specific questions pertaining to the current and future spectrum requirements of providers of energy, water, and railroad services.

NTIA reviewed the information collected through comments, reports, and other sources of information. NTIA presents its findings in this report based upon such data. NTIA found that providers of energy, water and railroad services submitting comments for this report had concerns regarding their current and future spectrum requirements. In addition, federal agencies who regulate the core operations of these industries (or some aspect of those operations) generally concur with comments by the industry and its representative trade organizations. Specifically, these comments disclosed the following key issues regarding spectrum usage by these industries.

- Continued use of spectrum is essential to the current and future operations of these industries, taking into account industry trends and advances in wireless telecommunications technology. Providers of energy, water and railroad services are vital components of the nation's critical infrastructure.

- Problems of interference caused by congestion in the land mobile portion of the spectrum currently utilized was the issue mentioned most frequently by commenters. The issue of exclusivity (e.g., spectrum that is allocated for specific services) was a key thread throughout the comments.

- According to industry, reliance on commercial services for mission critical functions is hampered by insufficient coverage, reliability, redundancy, and robustness. Additionally, the high cost of commercial wireless services and wireline technologies affect reliance on these technologies.

- Almost all commenters mentioned general frequency bands (e.g., 2.4 GHz and 5 GHz bands) currently used, instead of identifying specific frequencies.

- Many commenters were not specific as to whether spectrum-efficient technology such as trunked systems and narrowbanding are used on currently assigned frequency bands or channels. However, there were notable exceptions, such as the American Association of Railroads' decision to implement the Association of Public Safety Communications Officials' Project 25 protocols to develop a rechannelization plan for its 160 MHz radios.

CURRENT SPECTRUM USE

Currently, the energy, water, and railroad industries use spectrum between 20 megahertz (MHz) and 25 gigahertz (GHz). Although they use numerous frequencies in a variety of bands, all three industries agreed and informed NTIA that spectrum currently used is either congested or quickly approaching critical mass, thus leading to problems of interference.

The technologies and applications used in these bands are vital to the core operations of these industries. Furthermore, in 1996 (by Executive Order No. 13010), President Clinton recognized the railroad, water and energy industries as part of the Nation's critical infrastructure. These entities provide commodities and services that are essential to daily life. Table 1 illustrates the three industries and the spectrum and applications currently used by each.

POSSIBLE FUTURE SPECTRUM REQUIREMENTS

The energy, water, and railroad industries submitted to NTIA suggestions to alleviate their claim of congestion and lack of new spectrum. There is no consensus among the commenters as to where new spectrum can be reallocated or obtained. However, there is consensus that additional spectrum is needed due to what they perceive as current congestion and lack of additional spectrum available for their respective industries. Table 2, on page xx in this section, summarizes the spectrum bands where the energy, water, and railroad industries believe their frequency requirements need to be addressed.

Table 2
Summary of Frequency Bands That Could Be Used as Indicated by Commenters

Energy Industry	Water Industry	Railroad Industry
220 MHz Band	216-220 MHz Band	700 MHz Band[1]
450 MHz Band	6 GHz Band	1.4 GHz Band
800 MHz Band	11 GHz Band	
900 MHz Band	23 GHz Band	
1427-1432 MHz Band		
1-12 GHz Band		

1) Although the AAR mentioned the 700 MHz Guard Band, this spectrum will also be available to the energy and water industries by leasing spectrum from the "Guard Band Managers." More information on the 700 MHz band can be found on page 6-3.

The Energy Industry

The United Telecom Council, in its joint comments, recommends that exclusive spectrum for utilities be allocated in the 450 MHz, 800 MHz, and 900 MHz bands for voice and data communications. DTE Energy states that unused television channels should be allocated to utilities on a low powered non-interfering basis for voice and data communications and recommends access to bands between 1 GHz and 12 GHz for fixed narrow and medium-wide data channels as other preferred spectrum.

Itron, Inc., suggests that the 1427-1432 MHz band should be licensed for utility telemetry services such as Automatic Meter Reader and Supervisory Control and Data Acquisition. The National Rural Telecommunications Council states that access to the 220 MHz band for Supervisory Control and Data Aquisition applications allows rural electric and telephone cooperatives to transmit telemetry data over wide distances at reduced costs when compared to land line or high frequency wireless alternatives.

The Water Industry

The American Water Works Association believes the United Telecom Council's Utilities Spectrum Assessment Taskforce Final Report (1998) underestimated spectrum requirements for the utilities industries based on industry trends and the pace of telecommunications technology development. Table 3 is a summary of the Utilities Spectrum Assessment Taskforce (USAT) report spectrum prediction, which was included as an attachment to American Water Works Association's comments and derived from projections of future wireless applications and growth.

Table 3
USAT Final Report Spectrum Requirements

Year	2000	2004	2010
Additional Bandwidth Required	1.0 MHz	1.9 MHz	6.3 MHz

Another commenter, Data Flow Systems, specifically recommends that the 216-220 MHz band be dedicated to water utility telemetry uses nationwide.

The Railroad Industry

The Association of American Railroads suggests that the 700 MHz "guard band," recently auctioned by the FCC, be considered as a source of additional spectrum and that it be divided into geographic sectors, each with a separate band manager. The Association of American Railroads notes that one impediment to this suggestion is that the 700 MHz band is currently occupied by broadcast television stations.

The Association of American Railroads also suggests the 1.4 GHz band as a source for the proposed Land Mobile Communications Service for itself and other members of the Land Mobile Communications Council. The Association of American Railroads and other members of the Land Mobile Communications Council have previously asked the Federal Communications Commission for spectrum in the 1.4 GHz band (specifically, the 1390-1395 MHz/1427-1429 MHz/1432-1435 MHz bands), and to limit auctions in the 1392-1395 MHz and 1432-1435 MHz bands to band managers.

SUMMARY/CONCLUSIONS

In its investigation into the use of spectrum by these industries, NTIA recognizes the vital roles the railroad, water, and energy industries play in the Nation's critical infrastructure. The events of September 11, 2001, have underlined the importance of these industries and the role they play not only in our daily lives, but in times of disaster response and recovery. When the World Trade Center collapsed, utilities needed to be shut off or restored. It was important for sufficient water pressure to be continuously available for firefighting, and when the airlines were grounded, people and commerce relied more on the railroad industry for transportation.

Since this report is based predominantly on comments received from the industry and public, and information from federal agencies with oversight or regulatory authority over these industries, NTIA is unable to validate specific requirements and issues highlighted herein, such as exclusivity and congestion. However, NTIA suggests some of these issues may be addressed or mitigated with the use of advanced communications technology or newly allocated frequency bands, such as the 700 MHz guard bands.

NTIA believes the significance of these industries and the urgency of these issues may have changed as a result of the September 11th events. Therefore, it is of utmost importance that the Federal Communications Commission revisit these critical issues in order to accommodate the increasing role these industries play in maintaining quality of life.

Attachment B

Hurricanes of 2005: Performance of Gulf Coast Critical Infrastructure Communications Networks

November 2005

A Research Study by the United Telecom Council

1.0 Executive Summary

The hurricane season of 2005 resulted in immense damage and tragic loss of life to Florida and the Gulf Coast of the United States. Storms Katrina, Rita and Wilma also pointed out the weaknesses in many of our critical infrastructures, including telecommunications networks, some of which are still recovering months later. **However, in sharp contrast to many commercial wireless, landline telephone and other telecommunications networks, the private, internal networks (radio, microwave and fiber) of electric, gas and water utilities for the most part continued to function throughout and immediately after the storms**. In some cases, it was utility communications networks that provided the only reliable communications among emergency responders and other officials during the first few days after the storms.

The reliable performance of these internal systems was neither unexpected nor unusual; utility communications systems are constructed specifically to withstand major disasters. The United Telecom Council (UTC), the international trade association representing the telecommunications interests of critical infrastructure industries,[5] has conducted informal polling of its members after such emergencies as a major Northeast ice storm in 1998; the huge electric blackout of August 2003; and the hurricanes of 2004, with similar results.

However, given the magnitude of this year's disasters and resulting national discussions concerning the survivability of communications networks, UTC felt it imperative to undertake a formal survey of Gulf Coast electric, gas and water utilities of all sizes, to generate data that would quantify our anecdotal information.

---

[5] UTC's membership consists primarily of publicly-held, municipal and cooperative electric, gas and water utilities and gas pipelines, and Federal power authorities. Through affiliated association members, UTC reaches out to other Critical Infrastructure Industries (CII) as defined by the FCC in Section 90.7 of its Rules (47 CFR § 90.7), including petroleum and oil pipeline companies and railroads.

Overall findings:

- All by one of impacted CII entities responding reported that their communications networks generally survived the hurricanes and continued to operate well throughout restoration efforts (the single exception was a utility that relied on commercial wireless service;

- Private land mobile radio (LMR) networks provided critical communications among crews; however, the huge number of responding entities from around the country taxed capacity or could not operate on local systems, pointing up the need for CII interoperability;

- Utility fiber and microwave systems survived and generally continued to function; however, this was due in part to built-in redundancies, robustness and recovery mechanisms that would be cost-prohibitive for a for-profit network designed to serve the general public. Therefore, CII entities will continue to require private networks to meet mission-critical needs for the foreseeable future, along with the ability to expand them as needed to meet system growth requirements.

- Unfortunately, there was little or no formal coordination with state or local agencies or public safety organizations during or after the storms. Given the opportunities for improved response communications offered by robust CII systems, and the presence of CII personnel “on the ground” in nearly every disaster scenario, this lack emphasizes that CII MUST be included in emergency response planning at the Federal level.

We believe these findings should be of significant importance to Congress and to Federal agencies charged with communications-related Homeland Security responsibilities, such as the Federal Communications Commission and the Department of Homeland Security. UTC and its members look forward to discussing these findings and their implications with policymakers and others.

[Note: the full text of the report is being provided to the Subcommittee as supplemental material]

Attachment C

U.S. Emergency Wireless Network – A Responder Build-out Proposal

All parties concerned with homeland security agree: one of the primary needs in any emergency situation is reliable communications, interoperable among all responding entities. Due to its long-standing regulatory framework and division of jurisdiction over radio-frequency (RF) spectrum, the United States currently has no such capability. Whether manmade or natural, emergencies leave traditional public safety agencies, utilities and other responding critical infrastructure entities, and relevant federal agencies unable to communicate effectively either among themselves or with other responders, at the time it is needed most. This serious gap in capability, witnessed after the September 11, 2001 terrorist attacks and natural disasters such as the hurricane season of 2004 and 2005's Hurricane Katrina, must be addressed.

The United Telecom Council (UTC), the voice of critical infrastructure (CI) telecommunications since 1948, is among the many parties seeking a solution to this difficult problem. In addition, UTC is increasingly concerned that ***critical infrastructure industries have no spectrum dedicated for their exclusive use on any frequency band***, as noted in the 2002 National Telecommunications and Information Administration (Commerce) study of current and future spectrum use by the energy, water and railroad industries. CI wireless voice systems currently operate in bands shared with many incompatible uses. Mission-critical telemetry and SCADA systems are often found on bands where they have only secondary status and may be required to cease operations, and all CI communications face increasing congestion and harmful interference. Moreover, different utilities do not use the same spectrum for the same operations because of varying frequency availability across the Nation, thus hampering cooperative efforts in times of emergency. However, in spite of these difficulties, utility telecommunications systems – because they are built to support restoration, preserve personnel safety and underlie the reliability of electric, gas and water service – generally prove to be the most robust in times of emergency.

Proposal

UTC proposes to solve all these problems simultaneously, by a means we believe would: 1) cost less; 2) use spectrum more efficiently; and 3) meet the needs of emergency responders more closely than other proposals. Utilities and other CI entities traditionally work closely with traditional public safety agencies: they respond to the same emergencies, but utilities generally have more emergency-reliable wireless communications due to construction methods. In fact, CI entities increasingly help to build traditional public safety radio systems and/or share frequencies with public safety agencies. ***Congress and the FCC recognized the close working relationships among these entities when they re-classified utilities, pipelines and other CI entities as "public safety radio services" along with more traditional public safety organizations such as police and fire departments.***

To promote faster, more reliable and interoperable emergency response, as well as to meet the urgent communications needs of CI entities for the next decade or more, UTC proposes an innovative use of scarce RF spectrum:

- To meet everyday needs for reliable wireless voice and data communications, UTC urges a small CI nationwide spectrum allocation of 6-10 MHz in a frequency band below 1 GHz;

- CI entities would construct infrastructure nationwide, implementing an integrated voice and data technology platform providing an interoperable communications system. Utilities and other CI entities would migrate to this system over time (an estimated 7-10 years, based on equipment life cycles). Migration and build-out could be accomplished more quickly with partial Federal funding. Additional, fully operational equipment would be kept on hand by local CI entities using the system. In emergency situations, all traditional public safety, federal and other agencies would have immediate access to this equipment. A system of emergency priority access to frequencies also would be implemented to ensure reliable access for emergency responders.

- An alternative interoperable system would consist of a "network of networks," in which CI entities, traditional public safety agencies and other emergency responders would designate existing frequencies to an interoperable network during emergencies, all entities retaining control over their existing networks. With nationwide designated spectrum, CI entities could build and maintain the technology platform necessary to make this system possible.

Either method of interoperability would ensure that scarce spectrum resources are used efficiently, while providing the widespread access to joint communications needed urgently to meet U.S. emergency response needs. Given the long-time expertise in infrastructure build-out by CI entities, coupled with their deep understanding of emergency communications needs, UTC believes this proposal would provide for the type of nationwide emergency communications system most needed, built by the best-qualified entities.

UTC is anxious to discuss its efforts in this direction and means by which this proposal may be implemented, and looks forward to working with your office to develop it further. Please do not hesitate to contact UTC Vice President and General Counsel Jill Lyon at 202-833-6808 or jill.lyon@utc.org.